Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A polymer electrolyte for a lithium sulfur battery comprising the reaction product of:

a monomer comprising a poly(ester)(meth)acrylate in which at least two hydroxide groups in a (polyester)polyol are substituted with (meth)acrylic ester and any remaining hydroxide groups are substituted with a group having no radical reactivity wherein the (meth)acrylic ester is selected from $-OC(=O)(CH_2)_nOC(=O)CH=CH_2$ and $-OC(=O)(CH_2)_nOC(=O)C(CH_3)=CH_2$, wherein n is an integer from 1 to 20;

an initiator; and

an electrolytic solution comprising an organic solvent and a lithium salt.

2. Canceled.

3. Canceled.

4. Canceled.

5. (Previously Presented) The polymer electrolyte of claim 1, wherein the group having no radical reactivity is selected from the group consisting of C_1 to C_{20} aliphatic hydrocarbon groups, C_5 to C_{20} aromatic hydrocarbon groups, C_1 to C_{20} ether groups, and C_1 to C_{20} ester groups.

6. (Previously Presented) The polymer electrolyte of claim 1, wherein the mixing mole ratio of the methacrylic ester and the group having no radical reactivity is 1 : 0.01 to 1 : 100.

7. Canceled.

8. (Original) The polymer electrolyte of claim 1, wherein the mixing weight ratio of the electrolytic solution to the monomer ranges from greater than 10:1 to 200:1.

9. (Original) The polymer electrolyte of claim 8, wherein the mixing weight ratio of the electrolytic solution to the monomer is 40 to 150 : 1.

10. (Original) The polymer electrolyte of claim 9, wherein the mixing weight ratio of the electrolytic solution to the monomer is 60 to 120 : 1.

11. (Previously Presented) The polymer electrolyte of claim 5, wherein the group having no radical reactivity is selected from the group consisting of $-OC(=O)(CH_2)_3CH_3$, $-OC(=O)Ar$ where Ar is an unsubstituted or substituted aromatic hydrocarbon group, $-OC(=O)(CH_2)_nO(CH_2)_nCH_3$ where n is an integer from 1 to 20, $-O(C=O)(CH_2)_nOC(=O)(CH_2)_nCH_3$ where n is an integer from 1 to 20, and $-O(C=O)CH=CH_2$.

12. Canceled.

13. Canceled.

14. (Original) The polymer electrolyte of claim 1, wherein the initiator is at least one selected from the group consisting of isobutyl peroxide, lauroyl peroxide, benzoyl peroxide, m-tolluoyl peroxide, t-butyl peroxy-2-ethyl hexanoate, t-butyl peroxy bibarate, t-butyloxyneodecanate, diisopropyl peroxy dicarbonate, diethoxy peroxy dicarbonate, bis-(4-t-butylcyclohexyl)peroxy dicarbonate, dimethoxy isopropyl peroxy dicarbonate, dicyclo hexylperoxy dicarbonate, 3,3,5-trimethylhexanoyl peroxide, succinic peroxide didecarbonylperoxide, dicumyl peroxide, di-t-butyl peroxide, 2,5-dimethyl-2,5-di(t-butylperoxy)hexane, alpha-cumyl peroxy neodecanate, 1,1-dimethyl-3-hydroxybutyl peroxy-2-ethyl hexanoate, 2,5-dihydroperoxy-2,5-dimethylhexane, cumene hydroperoxide, t-butyl hydroperoxide, 2,2-di(t-butylperoxy)butane, ethyl 3,3-di(t-butylperoxy)-butylate, di(n-propyl)peroxy-dicarbonate, di(sec-butyl)perxy dicarbonate, di(2-ethylhexyl)peroxy dicarbonate, and azobis isobutyronitrile.

15. (Original) The polymer electrolyte of claim 1, wherein the initiator is present in an amount of 0.3 to 5 parts by weight based on 100 parts by weight of the polymer.

16. (Previously Presented) The polymer electrolyte of claim 1, wherein the (polyester) polyol is at least one selected from the group consisting of trialkylols, glycerols, and erythritols.

17. (Currently Amended) A lithium sulfur battery comprising:

a positive electrode comprising at least one positive active material selected from the group consisting of elemental sulfur, sulfur-based compounds, and mixtures thereof;

a negative electrode comprising a negative active material selected from the group consisting of materials that are capable of reversibly intercalating or deintercalating lithium ions, materials that react with lithium ions to prepare a lithium-included compound, lithium metals, and lithium alloys; and

a polymer electrolyte comprising the reaction product of a monomer comprising a poly(ester)(meth)acrylate in which at least two hydroxide groups in a (polyester)polyol are substituted with (meth)acrylic ester and any remaining hydroxide groups are substituted with a group having no radical reactivity, an initiator, and an electrolytic solution comprising an organic solvent and a lithium salt wherein the (meth)acrylic ester is selected from $-OC(=O)(CH_2)_nOC(=O)CH=CH_2$ and $-OC(=O)(CH_2)_nOC(=O)C(CH_3)=CH_2$, wherein n is an integer from 1 to 20.

18. Canceled.

19. Canceled.

20. Canceled.

21. Canceled.

22. (Previously Presented) The lithium sulfur battery of claim 17, wherein the group having no radical reactivity is selected from the group consisting of C_1 to C_{20} aliphatic hydrocarbon groups, C_5 to C_{20} aromatic hydrocarbon groups, C_1 to C_{20} ether groups and C_1 to C_{20} ester groups.

23. (Previously Presented) The lithium sulfur battery of claim 17, wherein the group having no radical reactivity is selected from the group consisting of $-OC(=O)(CH_2)_3CH_3$, -OC(=O)Ar where Ar is an unsubstituted or substituted aromatic hydrocarbon group, $-OC(=O)(CH_2)_nO(CH_2)_nCH_3$ where n is an integer of 1 to 20, $-O(C=O)(CH_2)_nOC(=O)(CH_2)_nCH_3$ where n is an integer of 1 to 20, and $-O(C=O)CH=CH_2$.

24. (Original) The lithium sulfur battery of claim 17, wherein the mixing weight ratio of the electrolytic solution to the monomer ranges from greater than 10:1 to 200:1.

25. (Original) The lithium sulfur battery of claim 24, wherein the mixing weight ratio of the electrolytic solution to the monomer is 40 to 150 : 1.

26. (Original) The lithium sulfur battery of claim 25, wherein the mixing weight ratio of the electrolytic solution to the monomer is 60 to 120 : 1.

27. Canceled.

28. Canceled.

29. Canceled.

30. (Previously Presented) The lithium sulfur battery of claim 17, wherein the mixing mole ratio of the methacrylic ester and the group having no radical reactivity is 1 : 0.01 to 1 : 100.

31. (Previously Presented) The lithium sulfur battery of claim 17, wherein the initiator is at least one selected from the group consisting of isobutyl peroxide, lauroyl peroxide, benzoyl peroxide, m-tolluoyl peroxide, t-butyl peroxy-2-ethyl hexanoate, t-butyl peroxy bibarate,

t-butyloxyneodecanate, diisopropyl peroxy dicarbonate, diethoxy peroxy dicarbonate, bis-(4-t-butylcyclohexyl)peroxy dicarbonate, dimethoxy isopropyl peroxy dicarbonate, dicyclo hexylperoxy dicarbonate, 3,3,5-trimethylhexanoyl peroxide, succinic peroxide didecarbonylperoxide, dicumyl peroxide, di-t-butyl peroxide, 2,5-dimethyl-2,5-di(t-butylperoxy)hexane, alpha-cumyl peroxy neodecanate, 1,1-dimethyl-3-hydroxybutyl peroxy-2-ethyl hexanoate, 2,5-dihydroperoxy-2,5-dimethylhexane, cumene hydroperoxide, t-butyl hydroperoxide, 2,2-di(t-butylperoxy)butane, ethyl 3,3-di(t-butylperoxy)-butylate, di(n-propyl)peroxy-dicarbonate, di(sec-butyl)peroxy dicarbonate, di(2-ethylhexyl)peroxy dicarbonate, and azobis isobutyronitrile.

32. (Previously Presented) The lithium sulfur battery of claim 17, wherein the initiator is present in an amount of 0.3 to 5 parts by weight based on 100 parts by weight of the polymer electrolyte.

33. (Previously Presented) The lithium sulfur battery of claim 17, wherein the (polyester) polyol is at least one selected from the group consisting of trialkylols, glycerols, and erythritols.

34. (Previously Presented) The lithium sulfur battery of claim 17, wherein the positive active material is selected from the group consisting of elemental sulfur, organic sulfur compounds, Li_2S_n where $n \geq 1$, Li_2S_n dissolved in a catholyte where $n \geq 1$, and a carbon-sulfur polymer of the formula $(C_2S_x)_n$, where x=2.5 to 50 and $n \geq 2$.